

## PATENT ABSTRACTS OF JAPAN

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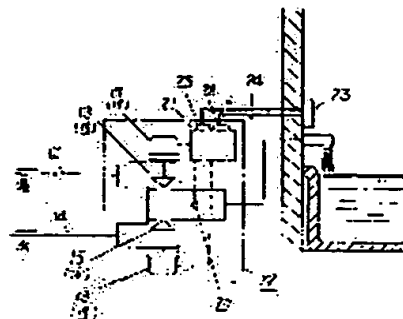
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## (54) HOT AND COLD WATER MIXER

## (57)Abstract:

PURPOSE: To permit a safe use of a mixer even in a damp place such as a bathroom by constituting the apparatus in such a way that a mixing valve unit and a setter are connected through an optical fiber and the setter is electrically insulated.

CONSTITUTION: The setter 2 to set the desired temperature of mixed waters is provided, and a controller 21 in the mixing valve unit 22 and the setter 23 are connected through the optical fiber 24. The controller 21 has a light emitting unit 25 and a light receiving unit 26, and the former transmits an optical signal to the setter 23 through the optical fiber 24 from the latter. The setter 23 mechanically modulates the optical signal, and the light receiving unit 26 of the controller 21 receives the modulated optical signal. The controller 21 responds to the temperature set by the setter 23, compares it with the signal of a thermister 20, controls a mixing valve drive device 19 according to the deviation, and obtains the mixed waters at a desired temperature. The mixing valve unit 22 and the setter 23 in a bathroom are so constituted to be connected through the optical fiber 24. Since the setter 23 is electrically insulated, it can be safely used in the humid bathroom.



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